

Abstract

[0036] A magnetic random access memory (MRAM) that includes an array of magnetic memory cells and a plurality of word and bit lines connecting columns and rows of the memory cells so that the memory cells are positioned at cross-points of the word and bit lines. Each memory cell has a magnetic reference layer and a magnetic data layer. Each magnetic reference layer and each magnetic data layer has a magnetization that is switchable between two states under the influence of a magnetic field and each reference layer has at a first temperature a coercivity that is lower than that of each data layer at the first temperature. The MRAM also includes a plurality of heating elements each proximate to a respective data layer. Each heating element provides in use for localized heating of the respective data layer to reduce the coercivity of the data layer so as to facilitate switching of the data layer.